

FExNet 2026

Collated SAQs: Trauma — Head, Face & Neck

QUESTION BOOKLET

22 short-answer questions covering the ACEM Fellowship trauma curriculum for head, maxillofacial, and neck injuries — TBI severity, neuroprotection, intracranial haemorrhage, anticoagulant reversal, maxillofacial fractures, dental trauma, c-spine clearance, spinal cord injury syndromes, penetrating and blunt neck trauma. Sub-questions labelled a) b) c) state the required number of responses.

22 questions • 244 marks

ACEM-aligned format. Sub-questions labelled a) b) c). Mark allocations indicative; references cited in the Answer Booklet. Question and answer indexes are clickable.

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Question 1 | Adult Head Injury — Canadian CT Head Rule (12 marks)

A 25-year-old man presents 1 hour after assault with a cricket bat to the head. Witnessed LOC for 5 minutes at scene. Now GCS 14 (E4V4M6). No focal neurology. Vomited twice.

a) List the 5 HIGH-risk criteria of the Canadian CT Head Rule. (5 marks)

b) List the 2 MEDIUM-risk criteria. (2 marks)

c) List 5 patient-specific factors that should mandate CT regardless of CCHR. (5 marks)

Question 2 | Severe TBI — Neuroprotective Management (14 marks)

A 25-year-old man is brought in after assault with a baseball bat. GCS 5 (E1V1M3), HR 55, BP 160/65, RR 8, T 36°C. CT head shows acute SDH with 8 mm midline shift. Awaiting neurosurgical theatre.

- a)** List 4 components of an RSI plan to MINIMISE secondary brain injury (drug, dose, rationale). (4 marks)

- b)** List 6 measures to minimise secondary brain injury after intubation. (6 marks)

- c)** List 4 surgical indications for evacuation of acute subdural haematoma. (4 marks)

Question 3 | Anticoagulant-Related ICH (12 marks)

A 74-year-old man on dabigatran 110 mg BD (for AF), metoprolol, and aspirin presents after a fall. GCS 15, but CT shows a small acute SDH. Last dabigatran dose 4 hours ago. eGFR 45.

a) List 4 treatments to consider for this patient with rationale. (4 marks)

b) State the reversal agent (with dose) for each anticoagulant. (4 marks)

c) List 2 important examination features required to guide treatment decisions. (2 marks)

d) List 2 disposition / monitoring decisions. (2 marks)

Question 4 | Extradural Haematoma (11 marks)

A 22-year-old male presents after blunt assault. Initially GCS 14, declined to GCS 8 over 2 hours. CT shows a 12 mm biconvex hyperdense collection over the right temporal region with 6 mm midline shift. Right pupil dilated.

a) List 3 classical CT features of extradural haematoma. (3 marks)

b) List 4 management priorities while awaiting neurosurgery. (4 marks)

c) List 4 differences between EDH and SDH. (4 marks)

Question 5 | Traumatic SAH and Diffuse Axonal Injury (10 marks)

A 19-year-old male is brought in after a motor vehicle collision (front-seat passenger, restrained, head-on at 80 km/h). GCS 8 (E2V2M4). CT head shows blood in basal cisterns and Sylvian fissures, with small haemorrhagic foci at the grey-white junction.

- a)** List 3 CT features distinguishing traumatic SAH from aneurysmal SAH. (3 marks)

- b)** Name 3 CT features suggestive of diffuse axonal injury. (3 marks)

- c)** State 4 management priorities for severe TBI in this patient. (4 marks)

Question 6 | Paediatric Head Injury — PECARN (11 marks)

A 2-year-old boy presents after falling from playground equipment, hitting his head. GCS 15, alert and interactive, small frontal scalp haematoma.

a) List 5 PECARN HIGH-RISK criteria in children <2 years that mandate CT. (5 marks)

b) Compare PECARN, CHALICE, and CATCH decision rules (briefly state how they differ). (3 marks)

c) List 3 important elements of your discussion with the parent who wants a CT despite low PECARN risk. (3 marks)

Question 7 | Geriatric Head Injury (11 marks)

An 87-year-old woman from home presents after a slip and fall down stairs with neck pain and head trauma. PMHx: AF on apixaban, hypertension, mild dementia. GCS 14 (E4V4M6); previous baseline 15.

a) List 4 specific concerns / vulnerabilities in the elderly head-injured patient. (4 marks)

b) List 4 immediate management priorities specific to this patient. (4 marks)

c) List 3 measures for secondary prevention. (3 marks)

Question 8 | Impending Herniation — Hyperosmolar Therapy (10 marks)

A 33-year-old man post intubation for severe TBI is awaiting neurosurgery. 30 minutes after CT showing acute SDH, his left pupil becomes fixed and dilated (right pupil reactive). HR 50, BP 160/100, RR 14 (ventilated).

a) Name the syndrome AND state the underlying mechanism. (2 marks)

b) State 4 immediate interventions with drug, dose, route. (4 marks)

c) State 4 measures to monitor and titrate hyperosmolar therapy. (4 marks)

Question 9 | Maxillofacial Trauma — Le Fort Fractures (11 marks)

A 20-year-old man has been punched repeatedly in the face during an altercation. Significant facial swelling, haemorrhage from mouth and nose, dental occlusion abnormal. GCS 14, HR 120, BP 105/70.

a) Describe the 3 Le Fort fracture patterns AND state one key examination finding for each. (4 marks)

b) List 4 immediate ED management priorities. (4 marks)

c) List 3 contraindications to nasogastric tube insertion in this patient. (3 marks)

**Question 10 | Orbital Trauma — Compartment Syndrome and Globe Rupture
(11 marks)**

A 35-year-old man presents with peri-orbital trauma after assault. Increasing proptosis, decreased visual acuity in the right eye, painful eye, ophthalmoplegia. Tense globe with raised intraocular pressure. CT shows fractures of the orbital floor and medial wall.

a) List 4 features suggesting orbital compartment syndrome. (4 marks)

b) State the 3-step bedside ED procedure for decompressing orbital compartment syndrome. (3 marks)

c) List 4 features suggesting globe rupture (signs that would mandate STOPPING further pressure on the eye). (4 marks)

Question 11 | Mandible Fracture (10 marks)

A 17-year-old man presents after assault with jaw pain, trismus, malocclusion, drooling. OPG shows bilateral mandibular fractures (right body, left subcondylar).

a) List 6 important physical findings to document. (6 marks)

b) State 4 ED management steps with specifics. (4 marks)

Question 12 | Dental Trauma — Tooth Avulsion (10 marks)

A 15-year-old male presents 30 minutes after a cricket ball injury. His upper left central incisor (tooth 21) has been avulsed completely. He brings the tooth in his hand, having wiped it clean with a cloth.

a) List 3 abnormalities to assess. (3 marks)

b) State 4 immediate ED management steps for the avulsed permanent tooth (per ADA / IADT guidelines). (4 marks)

c) List 3 possible long-term complications. (3 marks)

Question 13 | Facial Burn — Airway and Management (11 marks)

A 53-year-old female collapsed onto an electric heater after a syncopal episode and sustained a deep burn to her right face including peri-orbital, cheek, and ear. Currently haemodynamically stable, GCS 15. You are in a rural ED.

a) List 4 issues to consider in your assessment. (4 marks)

b) Describe how you would communicate this burn to the tertiary burns registrar. (3 marks)

c) Outline 4 issues in management of this burn. (4 marks)

Question 14 | C-Spine Clearance — NEXUS / CCR (12 marks)

A 25-year-old woman presents with neck pain after a low-impact fall from a trampoline. She is alert, GCS 15, has neck pain on midline palpation but no neurological deficit and no other distracting injuries.

a) List the 5 NEXUS low-risk criteria. (5 marks)

b) List the 3 HIGH-risk Canadian C-Spine Rule criteria that mandate radiological clearance. (3 marks)

c) Compare CT vs plain XR in C-spine clearance — list 4 considerations. (4 marks)

Question 15 | C-Spine Fracture Patterns (10 marks)

A 28-year-old man fell 2 metres from a ladder, landing on his head. CT C-spine shows a fracture pattern.

a) Match each fracture to its mechanism (4 fractures). (4 marks)

b) List 3 features of an unstable cervical spine fracture. (3 marks)

c) List 3 immediate management steps. (3 marks)

Question 16 | Spinal Cord Injury Syndromes (12 marks)

Several patients with spinal cord injuries are referred to your trauma centre. You are asked to teach junior doctors about spinal cord syndromes.

- a)** Complete the table for 4 spinal cord syndromes — describe signs AND mechanism (8 marks total). (8 marks)

- b)** List 4 measures (other than spinal immobilisation) for secondary prevention of further cord injury. (4 marks)

Question 17 | Neurogenic Shock vs Spinal Shock (10 marks)

A 42-year-old male is brought in after a motor vehicle accident with high cervical spinal cord injury at C5. He is GCS 15 with no motor function below C5. HR 50, BP 80/50, peripherally warm and well perfused.

a) Compare clinical features of neurogenic vs spinal shock (3 features each). (6 marks)

b) List 4 management priorities. (4 marks)

Question 18 | Penetrating Neck Trauma (12 marks)

A 62-year-old male is brought in after a home invasion during which he was stabbed in the right anterior neck. Wound extends from medial clavicle to cricoid level with active haemorrhage. GCS 10, combative; HR 125, BP 105/65. Right parietal scalp swelling from associated fall.

a) List 5 immediate management priorities. (5 marks)

b) List 4 clinical features ('hard signs') of vascular injury mandating operative exploration. (4 marks)

c) List 3 harms of hard collar use in this patient. (3 marks)

Question 19 | Blunt Cerebrovascular Injury (BCVI) (10 marks)

A 32-year-old male is brought in after a high-speed MVC with seatbelt mark across the neck. He has cervical spine fracture (C2 transverse foramen involvement) and skull base fracture. GCS 15 currently. You are concerned about BCVI.

- a)** List 4 high-risk mechanisms / injury patterns (Denver criteria) for BCVI. (4 marks)

- b)** Name the diagnostic imaging modality of choice AND 2 alternative modalities. (3 marks)

- c)** State 3 components of management once BCVI is confirmed. (3 marks)

Question 20 | Laryngeal Trauma (12 marks)

An 18-year-old man rode his motorbike into clothesline wire at 60 km/h. Closed anterior neck injury. GCS 15, HR 100, BP 120/75. Hoarse voice, soft inspiratory stridor, subcutaneous emphysema.

a) List 4 examination features suggesting significant laryngeal injury. (4 marks)

b) List 2 investigations to assess laryngeal injury. (2 marks)

c) List 4 modifications to standard RSI in this patient. (4 marks)

d) List 2 indications for IMMEDIATE surgical airway in the ED for this patient. (2 marks)

Question 21 | Mild TBI / Concussion (10 marks)

A 22-year-old amateur rugby player presents 30 minutes after a head clash during a match. Brief LOC ~10 seconds, now alert but reports headache, nausea, and feels 'foggy'. GCS 15, no focal signs. CCHR negative.

a) Define mild TBI / concussion. (3 marks)

b) List 4 categories of post-concussion symptoms. (4 marks)

c) State 3 components of return-to-play / return-to-activity advice. (3 marks)

Question 22 | Blast Injury (12 marks)

Ambulance control informs you that an explosion has occurred 5 minutes from your urban ED. Multiple casualties expected including head, face, and neck injuries.

a) Describe the 4 types of blast injury. (4 marks)

b) List 4 actions to take BEFORE patient arrival. (4 marks)

c) Match the 4 types of blast injury to their MOST likely injuries. (4 marks)
